

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	09901737
Filing Date	2001-07-09
First Named Inventor	LANAHAN
Art Unit	1638
Examiner Name	Anne R. Kubelik
Attorney Docket Number	21043

U.S. PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	6277615		2001-08-21	VARGHESE et al.	
	2	7102057		2006-09-05	LANAHAN et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S. PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	Ts
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Not for submission under 37 CFR 1.99)</i>	Application Number:	09901737
	Filing Date	2001-07-09
	First Named Inventor	LANAHAN
	Art Unit	1638
	Examiner Name	Anne R. Kubelik
	Attorney Docket Number	21043

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	Ts
	1	Gilbert, "Production and characterization of cellulases and xylanases from the thermophilic ascomycete Thielavia Temestris 255b", Univ. Microfilms Int., Order No. DANN93618 (1992) pp 243	<input type="checkbox"/>
	2	Goodenough et al., "Protein Engineering to change thermal stability for food enzymes", Biochem Soc Trans. Aug; 19 (3): 655-62	<input type="checkbox"/>
	3	Goodenough et al., "A Review of Protein Engineering for the Food Industry", Mol. Biotechnol., Oct; 4(2) 151-66	<input type="checkbox"/>
	4	Romaniec et al., "Molecular Cloning of Clostridium Thermocellum DNA and the expression of Further Novel AEndo-b-1-4-glucanase Genes in Escherichia coli", Journal of General Microbiology (1987) 133: 1297-1307	<input type="checkbox"/>
	5	Collings, et al., "Endo-B-1-4-glucanase, exo-B-1, 4-glucanase, B-glucosidase and related enzyme activity in culture filtrates of thermophilic, thermotolerant and mesophilic filamentous fungi", 131 Microbiols 56 131-147 1988	<input type="checkbox"/>
	6	Spezio et al., "Crystal Structure of the Catalytic domain of a Thermophilic Endocellulase", Biochemistry (1993) 32, 9906-9916.	<input type="checkbox"/>
	7	Juy et al., "Three-dimensional structure of a thermostable bacterial cellulase", Cellul. Hydrolysis Ferment., Proc. CEC Workshop (1992) 18-29	<input type="checkbox"/>
	8	Presutti et al., "Cloning of Three Endoglucanase Genes From Thermomonospora Curvata Into Escherichia coli", Journal of Biotechnology, 17 (1991) 177-188.	<input type="checkbox"/>
	9	Jin et al., "Purification and Characterization of Cellulases from Clostridium Thermocopriae sp. nov. JT3-3", Journal of Fermentation and Bioengineering Vol. 67, No. 1, 8-13 (1989)	<input type="checkbox"/>
	10	Kvesitadze et al., "Thermostable Endo-B-1,4-glucanase adn endo-b-1,4-xylanase activity in culture filtrates and a purified enzyme fraction in the thermophilic fungus Allescheria terrestris", Microbiols 80(323):113-123 (1994)	<input type="checkbox"/>

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	09901737
Filing Date	2001-07-09
First Named Inventor	LANAHAN
Art Unit	1638
Examiner Name	Anne R. Kubelik
Attorney Docket Number	21043

11	Matsumura et al., "Cumulative Effect of Intragenic Amino-Acid Replacements on the Thermostability of a Protein", Nature, Vol. 323 25 (September 11986) pp 358-358	<input type="checkbox"/>
12	Baker et al., "A New Thermostable Endoglucanase, Acidothermus Cellulolyticus E1 Synergism with Trichoderma reesei CBH I and comparison to thermomonospora fusca E5" Applied Biochemistry and Biotechnology (1994) 45-46, 245-56.	<input type="checkbox"/>
13	Politz et al., "Determinants for the Enhanced Thermostability of Hybrid (1-3,1-4)-Beta-glucanases", Eur. J. Biochem. 216 829-834 (1993).	<input type="checkbox"/>
14	Lao et al., "DNA Sequences of Three Beta-1,4-Endoglucanase Genes from Thermomonospora fusca" Journal of Bacteriology, (June 1991) p 3397-3407.	<input type="checkbox"/>
15	Robson et al., "Cellulases of Bacterial Origin" Enzyme Microb. Technol. (1989) Vol. 11, October, pp626-644.	<input type="checkbox"/>
16	Sakon et al., Crystal Structure of Thermostable Family 5 Endocellulase E1 From Acidothermus Cellulolyticus in Complex With Cellobiose", Biochemistry (1996) 35, 10648-10650.	<input type="checkbox"/>
17	Davies et al., "Crystallization and Preliminary X-Ray Analysis of a Fungal Endoglucanase I", J. Mol. Biol. (1992) 228, 970-972.	<input type="checkbox"/>
18	Chitarra et al., "Multiple Crystal Forms of Endoglucanase CelD: Signal Peptide Residues Modulate Lattice Formation", J. Mol. Biol. (111995) 248,225-232.	<input type="checkbox"/>
19	Dominguez et al., "Characterization of Two Crystal Forms of Clostridium Thermocellum Endoglucanase CelC", PROTEINS: Structure, Function, and Genetics 19:158-160 (1994).	<input type="checkbox"/>
20	Arnold, "Engineering Proteins for Nonnatural Environments", FASEB J. (June 1993) Vol. 7 pp 744-749.	<input type="checkbox"/>
21	Nosoh et al., "Protein Engineering for Thermostability" Trends Biotechnol. (January 1990) 8 (1) pp 16-20.	<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Not for submission under 37 CFR 1.99)</i>	Application Number	09901737
	Filing Date	2001-07-09
	First Named Inventor	LANAHAN
	Art Unit	1638
	Examiner Name	Anne R. Kubelik
	Attorney Docket Number	21043

22	Imanaka et al., "A New Way of Enhancing the Thermostability of Proteases" Nature Vol. 324 18/25 (December 1986) pp 695-697.	<input type="checkbox"/>
23	Matthews et al., "Enhanced Protein Thermostability From Site-Directed Mutations That Decrease the Entropy of Unfolding" Biochemistry Vol. 84 pp. 8663-8667 (October 9187).	<input type="checkbox"/>
24	Arias, "Engineering Protein Thermal Stability Sequence Statistics Point to Residue Substitutions in α -Helices" J. Mol. Biol. (1989) 208, pp 397-4406.	<input type="checkbox"/>
25	Davies et al., "Structure and Function of Endoglucanase V" Nature Vol. 365 ; 23 September 1993, pp. 362-364.	<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

* Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.15 if possible. ⁴ Applicant is to place a check mark here if English language translation is attached.

FORM PTO-1449
(REV. 7-86)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

ATTY. DOCKET NO.
21043
APPLICATION NO.
09/901,737
APPLICANT
LEBEL ET AL.
FILING DATE
July 9, 2001

Group
1638

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
3	5981835	1999-11-	Austin-Phillips , et al			
4	6818803	2004-11-	Austin-Phillips , et al.			

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	OFFICE	CLASS	SUBCLASS	TRANSLATION YES NO

*EXAMINER: Initial of reference considered, whether or not citation is in conformance with MPEP 609. Draw a line through citation if not in conformance and not considered. Include a copy of this form with the next communication to applicant.